

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

**PERSONALIZED MEDIA  
COMMUNICATIONS, LLC,**

**Plaintiff**

**v.**

**APPLE, INC.,**  
\_\_\_\_\_

**TPV INT’L (USA), INC.,  
ET. AL.,**

**Defendants.**

**Civil Action No. 2:15-cv-01366-JRG-RSP  
(Lead Case)**

**Civil Action No. 2:15-cv-01206-JRG-RSP  
(Consolidated Case)**

**PLAINTIFF’S OPENING CLAIM CONSTRUCTION BRIEF**

## TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND BACKGROUND .....	1
II. TERMS FOR CONSTRUCTION .....	1
A. Decrypting/Decryption; Encrypted; Decryption Key; Encrypted Digital Information Transmission .....	1
B. “To Decrypt in a Specific Fashion on the Basis of Said Code” .....	5
C. “Determining a Fashion in Which said Receiver Station Locates a First Decryption Key” .....	6
D. Remote Source/Remote Transmitter Station .....	6
E. “Detecting ...” .....	7
F. Programming .....	10
G. “Tuning Said Receiver Station to a Channel” .....	11
H. Downloadable Code/Locating Code .....	13
I. “Communicating Information on a Use of Said Identified Signal” and “Wherein” Clauses .....	14
J. “Input Ports” and “Output Port” .....	16
K. Multimedia Signals .....	18
L. Processor/Control Processor .....	18
M. Controllable Device .....	20
N. “Instruct-to-Enable Signal” .....	21
O. Message Stream .....	22
P. Control Information/Control Signal .....	24
Q. Register Memory .....	25
R. Cadence Information .....	25
S. “Stored Function Invoking Data” .....	26
T. Digital Television Signals .....	27
U. Digital Video Signals .....	28
V. Television Receiver .....	29
III. CONCLUSION .....	30

## **TABLE OF AUTHORITIES**

	<b>Page(s)</b>
 <b>Cases</b>	
<i>Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.</i> , 289 F.3d 801 (Fed. Cir. 2002).....	24
<i>Interactive Gift Express, Inc. v. CompuServe, Inc.</i> , 256 F.3d 1323 (Fed. Cir. 2001).....	15
<i>MBO Labs., Inc. v. Becton, Dickinson &amp; Co.</i> , 474 F.3d 1323 (Fed. Cir. 2007).....	18
<i>McCarty v. Lehigh Valley R.R. Co.</i> , 160 U.S. 110 (1895).....	6
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 134 S. Ct. 2120 (2014).....	26
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (en banc).....	23, 28, 29
<i>PMC v. ITC</i> , 161 F.3d 696 (Fed. Cir. 1998).....	9
<i>SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys. Inc.</i> , 242 F.3d 1337 (Fed. Cir. 2001).....	6, 20
<i>Sulzer Textil A.G. v. Picanol N.V.</i> , 358 F.3d 1356 (Fed. Cir. 2004).....	26, 28
<i>Young v. Lumenis, Inc.</i> , 492 F.3d 1336 (Fed. Cir. 2007).....	27
 <b>Other Authorities</b>	
MPEP § 608.01(b) (Rev. 52, 1977) .....	11

## I. INTRODUCTION AND BACKGROUND

The PMC patents-in-suit<sup>1</sup> disclose a variety of inventions that relate, among other things, to decryption key management and signal detection at receiver stations. The inventions can be used to facilitate the secure delivery of encrypted programming content (*e.g.*, television, radio, movies, music, print, and computer programming) to receiver stations along with control signals to enable the processing of the content and to generate output that is personalized and relevant to a user. PMC's patented inventions also can be used to protect the content against piracy.<sup>2</sup> There are a number of terms in the asserted patent claims that it will benefit the jury for the Court to construe. With this goal in mind, PMC offers constructions, as explained below, that are consistent with the intrinsic evidence and should help the jury understand complex technological concepts with which they may not be familiar.<sup>3</sup> In sharp contrast, Defendants propose constructions that are laden with self-serving limitations that contradict the intrinsic evidence. The Court therefore should reject Defendants' proposed constructions, as well as their vague claims that some of PMC's patent claims are indefinite. Instead, the Court should adopt PMC's constructions, which are in accord with the specifications and file histories of the patents-in-suit.<sup>4</sup>

## II. TERMS FOR CONSTRUCTION

### A. Decrypting/Decryption; Encrypted; Decryption Key; Encrypted Digital Information Transmission

PMC's constructions are consistent with those agreed to by the parties and the district

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<sup>1</sup> The patents-in-suit in PMC's case against Apple are attached to the Declaration of Lana Shiferman at Exs. A (U.S. Pat. 8,191,091), B (U.S. Pat. 8,559,635), C (U.S. Pat. 7,752,649) and D (U.S. Pat. 8,752,088). U.S. Pat. 4,694,490 is attached as Ex. E. The other exhibits referenced herein are also attached to the Shiferman Declaration.

<sup>2</sup> PMC provides background information about the patents as part of its technology tutorial.

<sup>3</sup> A chart of stipulated constructions and a side-by-side comparison of the proposed constructions for disputed terms are attached hereto for the Court's convenience. Exs. F and G.

<sup>4</sup> The 2'649 Patent is also asserted in the Vizio case, which is consolidated with this case for pre-trial proceedings. For efficiency purposes, the parties have briefed overlapping claim terms from the 2'649 Patent as part of the claim construction briefing for the June 28 Markman hearing.

court in *PMC v. Scientific-Atlanta, Inc.*, C.A. No. 1:02cv824-CAP (N.D. Ga.), as well as by the PTO's Board during reexaminations of two related PMC patents.<sup>5</sup> "Decryption" is "a method that uses a **digital key** in conjunction with an associated algorithm to decipher (render intelligible or usable) **digital data**." Similarly, "encryption" is "an operation performed on **digital data** in conjunction with an associated algorithm and digital key to render the **digital data** unintelligible or unusable." Ex. H at 77-78; Ex. I at 53-54.<sup>6</sup>

The parties here agree that "decryption" is a process by which data is rendered intelligible or usable using a key. Apple's proposed construction ignores, however, that the patents-in-suit make clear that decryption and encryption are processes used in connection with **digital data**. See, e.g., Ex. E, 4:61-5:2 (decryptors convert the **received information**, in part or in whole, to other **digital information**);<sup>7</sup> Ex. A, 148:13-20 ("the program originating studio ... **transmits** a television signal that consists of so-called '**digital video**' and '**digital audio**', well known in the art. Prior to being transmitted, the **digital video information** is doubly **encrypted**, by means of particular cipher algorithms A and B and cipher keys Aa and Ba, in such a way that said information requires **decryption** at subscriber stations..."); *id.*, 73:34-36; 101:51-58 (describing techniques to **encrypt "binary information" – i.e., digital information**). The specifications are consistent with the customary understanding of a person of ordinary skill in the art ("POSITA") as of 1981. See Dec. of Alfred C. Weaver, Ph.D. ("Weaver Dec."), ¶ 29.

"Encryption" and "decryption" do not encompass the scrambling and descrambling of an

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<sup>5</sup> The PTO Board previously construed the terms "encryption" and "decryption" during *ex parte* reexamination of U.S. Pat. 5,335,277 (the "'277 Patent") and U.S. Pat. 4,965,825 (the "'825 Patent"), patents in the same family and sharing the same specification as the patents-in-suit.

<sup>6</sup> Additionally, an "encrypted digital information transmission" constitutes "signals sent or passed from one location to another location to convey **digital information** which is in encrypted form." A "decryption key" is "**digital data** used by a device or method in conjunction with an associated algorithm to decipher (render intelligible or usable) encrypted **digital information**."

<sup>7</sup> The '490 Patent is referred to as the "1981 Specification" and citations to the "1987 Specification" use the '091 Pat. All the patents-in-suit commonly share the 1987 Specification.

analog transmission. The specification unequivocally distinguishes and contrasts analog scrambling/descrambling with digital encryption/decryption in the following passage:

Various *scrambling* means are well known in the art for scrambling, usually the video portion of *analogue* television transmissions in such a fashion that only subscriber stations with appropriate *descrambling* means have capacity to tune suitably to the television transmission and display the transmitted television image information. *Encryption/decryption* means and methods, well known in the art, can regulate the reception and use of, for example, *digital* video and audio television transmissions, *digital* audio radio and phonograph transmission, *digital* broadcast print transmission, and *digital* data communications.

Ex. A, 143:20-30 (emphasis added). The only other passage in the specification that mentions (analog) descrambling further contrasts it with digital decryption:

It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. For example, the decryption cipher key information and/or algorithm instructions and/or the location or locations of said key information and/or instructions may be computed in other, more complex or less complex, fashions. And for example, the transmitted programming may be processed through fewer than three steps of decryption or more than three. *And for example, the “Wall Street Week” transmission may be of conventional analog television, and the decryptors 107, 224, and 231, may be conventional descramblers, well known in the art, that descramble analog television transmissions and are actuated by receiving digital key information.*

*Id.*, 159:46-61 (emphasis added). When read in the context of the entire paragraph, a POSITA would understand that the last sentence does not equate descrambling with decryption; rather, “conventional (analog) descramblers” are used in place of, or as an alternative to, the “decryptors, 107, 224, and 231” if and when “the ‘Wall Street Week’ transmission [is] of conventional analog television” instead of digital television programming. Weaver Dec., ¶ 30.<sup>8</sup> Indeed, Ap-

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<sup>8</sup> In IPR2014-01532 and IPR2014-01533, the same PTAB panel read this description about the replacement of digital decryptors with analog descramblers out of context and, as a result, incorrectly equated descrambling with decryption. That interpretation is subject to pending Requests for Rehearing. Similarly, J. Everingham was misled by an out-of-context citation of the same sentence when he ruled against limiting the scope of the encrypt/decrypt terms to digital signals. See Order, *PMC v. Motorola, Inc.*, C.A. 2:08cv70 (E.D. Tex. Sept. 30, 2011) at 53-53 (Dkt. 271).

ple’s expert, Mr. Wechselberger, in a contemporaneous publication, wrote “Encryption Implies Digital” and “[i]n the conventional encryption process... a *digital bit stream (the information) is passed* ... through an algorithm which transforms the input into a seemingly unrelated output bit stream.” Ex. J at PMCAPL00873281 (emphasis added).

Further, the PTO Board held during reexamination of a related patent that “one of ordinary skill in the art would recognize that a decryptor performs decryption as opposed to the unscrambling relied on by the Examiner.” Ex. K at 67. Likewise, in an appeal involving PMC’s ’825 Patent, the Board concluded that “‘encryption’ and ‘decryption’ are not broad enough to read on ‘scrambling’ and ‘unscrambling.’” Ex. I at 53. During both PTO proceedings, the Board construed *the same* “decrypt/decrypting” term in light of *the same* specification, and *the same* dispute over whether analog descrambling constitutes decryption. *See* Exs. K at 67-68; I at 53-54. In both proceedings, the Board held that decryption “*is made specifically with respect to digital signals.*” Ex. K at 67-68 (emphasis added). And, the Board held that “‘*encryption, as it would have been commonly defined by one of ordinary skill in the art at the time of filing, requires a ‘digital’ signal.* . . . We conclude that ‘encryption’ and ‘decryption’ are not broad enough to read on ‘scrambling’ and ‘unscrambling.’” Ex. I at 27 (emphasis added).

Finally, express prosecution disclaimers settle this issue in PMC’s favor. In reexamination and prior court proceedings involving related patents having the same specification as the patents-in-suit, PMC unequivocally disclaimed any construction of “decrypt” that would encompass descrambling of analog content. *See Pegasus Dev. Corp. v. DIRECTV, Inc., C.A.*

1:00cv1020 (D. Del. March 25, 2003) (Dkt. 715) at 2 n.1 (“the court agrees with the plaintiffs that the patentee’s statements [about their ‘digital only’ construction of the term ‘decrypting’] before the Board ... represent an unambiguous disavowal of claim scope.”).

Apple’s proposed constructions are inconsistent with the intrinsic record and the under-

standing of a POSITA because they do not limit “encryption” and “decryption” to operations performed on digital transmissions.

**B. “To Decrypt in a Specific Fashion on the Basis of Said Code”**

The limitation, in the ’635 Patent claims, “to decrypt in a specific fashion on the basis of said code” should be construed as “controlling the decrypting process through the selection of a decryptor, a decryption key and/or a decryption algorithm based on the received code.” The specifications describe embodiments in which, based on a received code, the disclosed apparatus performs a decryption process that includes the selection of a decryptor, a decryption key and/or a decryption algorithm. For example, the apparatus receives signals that cause the apparatus to select a “decryptor/interruptor, 107” from among other decryptors found at the apparatus to perform the decryption. Ex. E, 14:10-27 (“... signal or signals enables decryptor/interruptor, 107, to decrypt . . .”). The received code also causes the apparatus to select a decryption key for use by a decryptor during decryption. *See, e.g., id.*, 21:35-43 (“signal processor, 200, decrypts the signal word or words and transfers them to decryptor, 224, to serve as the code for the first stage of decryption.”). Similarly, the apparatus may select different decryption algorithms to execute based on the received code. *Id.*, 13:24-31 (“The signal or signals may also inform decryptor/interrupter, 101, how to decrypt or interrupt the programing if decryptor/interrupter, 101, is capable of multiple means. The signal or signals may transmit a code or codes necessary for the decryption of the transmission.”).

Apple’s proposed construction improperly restricts the claim by requiring that the received code “specif[y]” the method of decryption. The claim and the specification, however, is not so narrow in scope. The plain language of the claim does not place any limitation on the content of the received code, but rather, broadly recites that an operation is taken “on the basis of said code.” It is improper to import a limitation from the specification into the claims. *See*



*SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys. Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 (1895) (“if we once begin to include elements not mentioned in the claim, in order to limit such claim . . . , we should never know where to stop.”). Furthermore, the specifications describe other operations that are taken on the basis of a received code, such as the selection of a decryption key in separate transmission and the passing of the decryption key to a selected decryptor. *See supra*; *see also, e.g.*, Ex. E, 15:8-19; 21:44-51; Weaver Dec., ¶¶ 36-37.

**C. “Determining a Fashion in Which said Receiver Station Locates a First Decryption Key”**

The ’091 Patent claim limitation “determining a fashion in which said receiver station locates a first decryption key” does not require a construction beyond its plain and ordinary meaning. It contains non-technical terms that could be readily understood and applied by a lay juror. Weaver Dec. ¶ 38. Apple’s proposal to substitute “determining a fashion” with “deciding which method” provides no additional clarity to an already straightforward limitation. Furthermore, by importing “said receiver” into the limitation, Apple’s construction only creates ambiguity and more questions for the jury. Accordingly, this limitation should be interpreted according to its plain and ordinary meaning.

**D. Remote Source/Remote Transmitter Station**

“Remote source” in the ’091 Patent claims means “a source of information or data that is at a location different from the receiver station that is connected via a communications path.” Similarly, a “remote transmitter station” in the ’635 Patent claims is “a station that is at a location different from a receiver station that transmits programming or other information.” These constructions are entirely consistent with the patent specifications. For example, the 1981 Specification describes that the transmitter stations have the capability to transmit data to remote sites,

which are at different “geographic location or locations.” Ex. E at 8:46-55; 1:49-53 (“The present invention contemplates that . . . certain data collected from such processing and monitoring will automatically be transferred to a remote geographic location or locations.”); 3:20-25 (“It is also an object of the present invention to provide a record of signals that may be transferred to a geographically distant location on command or predetermined instruction.”). The 1987 Specification contrasts “local stations” with “remote stations.” Ex. A at 159:46-160:28 (“determining that a *local station* is not preprogrammed properly . . . may disable local apparatus selectively . . . from processing embedded SPAM . . . and may interrogate *remote station* apparatus . . .”).

Further, as Dr. Weaver explains, a POSITA would recognize that a “remote source” and “remote transmitter station” in view of the patent specifications is a source or transmitter of information that is geographically remote from a receiver station. *See, e.g.*, Ex. A, 130:31-42 (remote wireless transmitter station is a remote source *and* a remote transmitter station that wirelessly transmits embedded signal information); 132:62-133:2 (remote wireless transmitter station is a remote source *and* remote transmitter station that wirelessly transmits the Wall Street Week program). *See also* Weaver Dec., ¶ 51. A peripheral device of a receiver station, such as a keyboard, is not a “remote source.” *Id.*

Apple’s constructions fail to account for the term “remote” and could encompass sources or transmitter stations that are in the same geographic location as the receiver station.

#### **E. “Detecting ...”**

Various claims in the ’091, ’635, and 2’649 Patents recite a step of “detecting” information or signal(s). The word “detecting” requires no construction because: (a) its plain meaning is well understood by a POSITA, and (b) nothing in the intrinsic evidence suggests any special meaning intended by the inventors. Weaver Dec., ¶ 39. Apple, however, insists on construing “detecting” to mean “demodulating and identifying.” The inclusion of “demodulating” as a

necessary sub-step of “detecting” is inconsistent with the specification, the understanding of a POSITA reviewing the specification and prior court decisions.

In the disclosed embodiments, signal detection is performed by “digital detectors.” *See* Ex. A, FIGS. 2A-2C; 18:58-60 (“... a digital detector, 34, which acts to detect the digital signal information embedded in said [video] information”); 19:3-5 (“The digital detector, 37, detects signal information embedded in said audio information ...”); 19:7-9 (“... a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal”). Such signal detection by the digital detectors is shown as being separate from demodulation operations. For example, in the TV signal decoder illustrated in FIG. 2A of the '091 Patent, all of the digital detectors 34, 37 and 38 are located downstream from, and receive a demodulated “base band signal” outputted by, the amplitude demodulator 32:

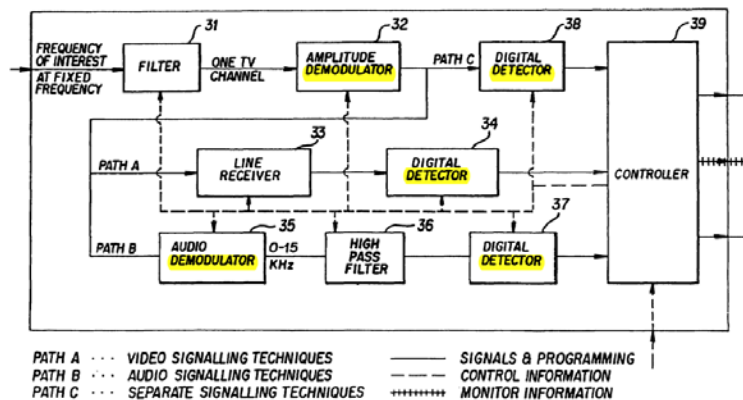


FIG. 2A

*See also id.*, 128:52-129:7 (describing an inputted channel signal being demodulated by demodulator 32 before reaching detector 38); 130:46-62 (describing a wireless channel 5 transmission processed by demodulator 32 and line receiver 33 before reaching detector 34).

Only when signal detection is described more generally at the decoder level could demodulation *sometimes* be part of the “detecting” step. *See id.*, 16:6-9 (“Decoder, 30, which is shown in detail in FIG. 2A, and decoder, 40, which is shown in FIG. 2B, detect signal information embedded in the respective inputted television and radio frequencies ...”); FIG. 2A

(showing demodulators 32 and 35 as part of TV signal decoder 30). But, in other embodiments, the specification explains that signal decoders *need not* include any demodulator. *See id.*, 47:61-48:14 (“Receiving said embedded binary information at decoder, 203, (***which does not include*** a filter, 31, or ***a demodulator, 32***, because its input is a composite video transmission) causes line receiver, 33, automatically to detect and transfer said embedded information to digital detector, 34, which automatically detects the binary information ...”); 162:7-22 (“Said decoders can be located in the aforementioned circuitry of their associated apparatus in such fashions that ***said decoders do not require*** filters, 31, and ***demodulators, 32 and 35***, (in the case of TV signal decoders) ...”) (emphasis added). Since the specification describes decoder embodiments both with and without any demodulator, and clearly separates digital signal detection from demodulation on the sub-decoder level, the inventors could not have intended for the “detecting” step necessarily to include a “demodulating” sub-step. Apple’s attempt to graft “demodulating” onto “detecting” or to conflate the two operations is therefore unfounded. *See Weaver Dec.*, ¶¶ 40-42.

Relatedly, the Federal Circuit previously construed “digital detector” in the ’277 Patent as a device that ‘acts to detect the digital signal information’ in other information” (*PMC v. ITC*, 161 F.3d 696, 704-706 (Fed. Cir. 1998)), citing with approval a dictionary definition of “detector”: ““(1): a device for determining the presence of a signal (2): a rectifier of high-frequency current (as a cat whisker and crystal or a vacuum tube) (3): a device for extracting the intelligence from a signal (4) DEMODULATOR.”” *Id.*, 704-705 n.12.

The claims themselves make clear that the most apt characterization of the detector’s function is either “determining the presence of a signal” (*cf.* Ex. A, claims 13, 26 (“detecting ... the presence of an instruct-to-enable signal”)) or “extracting the intelligence from a signal” (*cf.* Ex. B, claims 13, 20, 32 (“detecting a plurality of signals [in/on an information transmission]”); Ex. C, claims 39, 62 (“detecting said message stream [or control information] in said information

transmission”)). *See also* Weaver Dec., ¶ 43; Rpt. and Recom. of Special Master Regarding Cl. Constr., *Pegasus Dev. Corp. v. DIRECTV, Inc.*, C.A. 1:00cv1020 (D. Del. March 25, 2003) at 33-34 (construing “detecting” to mean “extracting intelligence from a signal”); Order, *PMC v. Motorola, Inc.*, C.A. 2:08cv70 (E.D. Tex. Sept. 30, 2011) at 33 (construing “detector means” to mean a “device for determining the presence of a signal”).

#### F. Programming

The Court should construe the term “programming” to mean “everything that is transmitted electronically to entertain, instruct, or inform, including television, radio, broadcast, print and computer programming as well as combined medium programming.” Indeed, this definition is the same one as provided in the specification of the patents-in-suit. *See* Ex. A, 6:31-34. Vizio agrees with PMC’s proposed construction.

For the ’091 and 2’649 Patent, Apple’s proposal is essentially the same as PMC’s but further requires that “at least a portion” of the “programming” be “designed for multiple recipients.” This is incorrect. First, there is no basis in the claim for imposing such a multi-recipient requirement: the claims recite “programming at a receiver [or subscriber] station,” “television programming,” or “a unit of programming,” none of which requires multiple recipients. Second, the specification never limits “programming” to a transmission intended for multiple recipients. To the contrary, the 1987 Specification describes “*personalized* mass media programming” and “new *user specific* mass media [programming]” (Ex. A, Abstract), generation of “*user specific* programming” (*id.*, 22:13-17), and each subscriber viewing “programming that is *personalized and private*” (*id.*, 14:53-57). Third, the unnecessary “designed for” limitation, by tying the definition of “programming” to the number of its *intended* recipients, introduces uncertainties in determining what transmission or content would constitute “programming.” Weaver Dec., ¶ 62. For all of these reasons, Apple’s attempt to impose a multi-recipient limitation on “program-

ming” should be rejected.

As to the term “programming” in the ’635 Patent (entitled to the Nov. 3, 1981 priority date), Apple argues that the 1981 Specification offers a different definition in the Abstract:

Apparatus and methods for automatically controlling programming transmission and presentations *on television and radio equipment* and monitoring the programming transmitted and presented (“Programming” *here* means everything transmitted over television or radio intended for communication of entertainment or to instruct or inform.

Ex. E, Abstract (emphasis added). Even setting aside the PTO’s prohibition at the time against using the Abstract as a source for claim construction,<sup>9</sup> the parenthetical explanation – “Programming *here* means...” – is clearly limited to the context of “programming transmission and presentations *on television and radio equipment*” as stated in the preceding sentence. Nothing indicates the inventors intended to limit “programming” to television and radio only. For example, the 1981 Specification confirms that the “programming” can be received “from *many sources* including cable converter box, 133, *video cassette recorder*, 135, and *videodisc player*, 137” (Ex. E, 16:5-7), that identifier signals can be located “in the audio and/or video *and/or other parts* of the programming” (*id.*, 16:25-32), and that the “decrypted programming” (*e.g.*, a book) can be passed “to *printer* or other means” (*id.*, 21:63-67). *See also id.*, FIG. 6E and its description at 21:1-22:4 (describing controlled distribution of copyrighted materials, such as books, in encrypted programming transmissions). A parenthetical note of limited relevance to one sentence in the Abstract cannot override the broader description of “programming” throughout the 1981 Specification. Weaver Dec., ¶ 63.

#### G. “Tuning Said Receiver Station to a Channel”

Claim 26 of the ’091 Patent recites “tuning said receiver station to a channel,” which the

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<sup>9</sup> MPEP § 608.01(b) (Rev. 52, 1977) (“The abstract shall not be used for interpreting the scope of the claims.”)

Court should construe to mean “switching the input of the receiver station to a particular communications path.” Weaver Dec., ¶ 48. This construction is consistent with the claim language, the specification, and dictionary definitions. In sharp contrast, Apple’s overly limiting definition (“selecting a frequency for said receiver station to receive programming”), equates the “channel” to a particular frequency (or frequency band) and is therefore incorrect.

First, the claim broadly recites “a channel”; not “a *frequency* channel” or even “a *television* channel” or “a *cable* channel.” A POSITA reviewing the specifications, would not understand “channel” to be limited to a *frequency* channel. Indeed, the specifications provide examples of other types of channels or communications paths, that are not frequency channels. *See, e.g.,* Ex. E, 19:31-41 (describing a microcomputer that receives “***by means of a digital information channel,***” all closing stock prices applicable that day); Ex. A, 215:56-65 (discussing “***tun[ing] to the transmission of a selected digital data channel***” to receive a news item message); 215:9-14 (discussing the receipt and transmission of programming transmissions via digital data channels A and B); *see also* Weaver Dec., ¶ 47 (POSITA would not understand the inventors to have intended to equate “channel” with “frequency”).

Apple’s narrow interpretation of “channel” (essentially as TV or radio frequency bands) also contradicts the stated goal of the invention to communicate “programming”—which not only may include television or radio but could also include “broadcast print” or “computer programming”—via “multi-channel communications.” *See* Ex. A, 6:29-46. A POSITA would appreciate that “broadcast print” or “computer programming” may be transmitted via a communication path other than the conventional TV or radio frequency bands. Weaver Dec., ¶ 49.

Moreover, Apple’s own dictionary citations confirm that the word “channel” generally refers to “a path along which signals can be sent; e.g., data channel, output channel.” Ex. O; *see also* Ex. P (defining “channel” in the field of electronic communications to mean “a single path

for transmitting electric signals, usually in distinction from other parallel paths”); Ex. Q (defining “channel” as “a single path for transmitting electric signals”); Weaver Dec., ¶ 46.

#### H. Downloadable Code/Locating Code<sup>10</sup>

The key dispute between the parties is whether the term “downloadable code,” as recited in the ’635 Patent claims, should be construed to cover “data or instructions,” as PMC proposes, or only “instructions,” as Apple has suggested. Similarly, Apple proposes to construe “locating code” from the ’635 Patent claims as limited to “locating one or more instructions in the digital transmission.” PMC contends that “locating code” is readily understood and no construction is needed. The intrinsic record also makes clear that “downloadable code” could include, not just instructions, but also “data”: “The signals for which the decoders are monitoring are likely to be unique *digital codes* that may identify each programing or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission. . . . *In the case of data transmitted to the microcomputer*, they may be unique *codes* that identify the source and suppliers of the data. *In the case of data received at the printer*, they may identify publications, articles, publishers, distributors, advertisements, etc.” Ex. E, 15:57-16:2; Ex. A, 151:16-56. For the same reasons, the “code” in the term “locating code” should be construed so that it encompasses both instructions and data. Apple’s constructions would directly conflict with the teachings of the specification. Even the excerpts that Apple relies upon as support contradicts its proposed construction, describing various types of “code” as containing, not just instructions, but also “information.” *See, e.g.*, Ex. A, 87:54-88:7; *see also* Weaver Dec., ¶ 60. Further, there is no reason to import “in the digital transmission”

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<sup>10</sup> PMC objects to Vizio’s attempt to construe the term “code” in Phase 1, which is limited to overlapping terms in the two cases. “Code” is not a standalone term at issue in the consolidated actions. “Downloadable Code” appears only in the ’635 Patent which is not asserted against Vizio; and Vizio did not timely disclose the standalone term “code” pursuant to P.R. 4-1 and 4.2.



into the term “locating code.”

**I. “Communicating Information on a Use of Said Identified Signal” and “Wherein” Clauses**

Claim 14 of the ’088 Patent recites, in plain English, “passing said signal from said processor to said output port, *wherein a way the signal is passed from said output port is based on said step of identifying*” and “*communicating information on a use of said identified signal, wherein the use of said identified signal comprises information of the passing of said identified signal based on said step of passing.*” Nothing in the intrinsic evidence suggests anything special or ambiguous about these claim elements so as to require any construction. In addition, Apple’s proposed definitions are incorrect.

For example, Apple argues that “wherein *a way* the signal is passed from said output port is based on said step of identifying” means “wherein *the method by which* the signal is transmitted from said output port is based on said step of identifying a signal from at least one of said plurality of input ports.” Apple’s construction essentially replaces the word “way” with “method.” Apple’s paraphrasing unnecessarily narrows the scope of this claim element, however, because it restricts the signal-passing options to the manner of transmission, whereas the specification also describes passing the output signals to different destinations or along different communication paths based on signal type or identity. *See* Ex. E, 9:63-68 (“[The controller, 20] instructs processor or monitor, 12, how to identify what signals to pass externally and ***where to pass them*** and what signals to transfer to buffer/comparator, 14.”); 17:39-46 (“Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions, ***identify and discriminate among one or more pieces of external equipment to which such signals are addressed***, and transfer such signals to such equipment as directed.”). Apple’s proposed definition improperly excludes the signal des-

tinuation or communication path (*i.e.*, *where* to pass the signal) as an alternative to the manner of transmission (*i.e.*, *how* to pass the signal). In contrast, PMC’s proposal (to the extent the Court concludes construction is necessary)—“the communication path *or* manner through which the signal is transmitted from the output port is based on what type of signal it is”—reasonably captures the full scope of this claim element. *See also* Weaver Dec., ¶ 89.

Regarding the step of “communicating information on a use of said identified signal,” Apple’s definition—“transmitting information *from said receiving apparatus* about a use of said identified signal”—improperly adds the italicized limitation which is not required by the claim language. Although the specification does describe the *external* transmission of signal usage information from a receiver station to “a remote data collection site” (Ex. E, 18:30-42), the “communicating” could, and in fact must, also occur internally within the receiver station, for example, at least prior to the external transmission of the same information. *See id.*, 17:10-24 (“Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, to be handled, recorded, and transmitted to a remote site with all other monitor information.”); 4:55-5:22 (describing both internal and external transfer of signals); Ex. A, 16:56-58 (“... and determines whether [signals] are to be transferred to external equipment or to buffer/comparator, 14, or both.”); 16:54-17:12, 17:51-18:2. There is no basis to limit the “communicating” step to external transmission only. *See* Weaver Dec., ¶ 90; *see also Interactive Gift Express, Inc. v. CompuServe, Inc.*, 256 F.3d 1323, 1335-44 (Fed. Cir. 2001) (rejecting claim constructions for improperly importing limitations from specification into claims).

Apple’s claim that the clause “wherein the use of said identified signal comprises information of the passing of said identified signal based on said step of passing” is indefinite also lacks merit. In the context of the entire claim, a POSITA would appreciate that “the use of said identified signal” is short for the “information on the use of said identified signal” recited in the

preceding element. This “wherein” clause thus explains in plain English the composition of the signal usage information, *i.e.*, “information of the passing of said identified signal [collected] based on said step of passing.” For example, the specifications teach monitoring the use of signals passed between two components by recording those signals with a signal processor. Ex. E, 17:10-24 (“Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate. Signal divider, 139, monitors the use of signals rather than the use of programing. Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, to be handled, recorded, and transmitted to a remote site with all other monitor information. In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programing usage and viewership ...”). *See* Weaver Dec., ¶ 91. Therefore, the “wherein” clause concerning “the use of said identified signal” is unambiguous and supported by the specifications.

#### **J. “Input Ports” and “Output Port”**

Claim 14 of the '088 Patent describes that a “multimedia receiving apparatus for gathering information on use of signals” includes “a plurality of input ports for receiving multimedia signals” and “an output port.” “Input ports” should be construed as “defined or designated connections or paths that feed received programming or instructions into a receiver for processing.” “Output port” should be construed as “a defined or designated connection or path used by one device or circuit to output signals to another device or circuit.”

The intrinsic evidence supports these constructions. For example, the 1981 Specification describes that the apparatuses’ processors and buffers receive “*inputs from each of the receiver/detector lines* and evaluate information continuously.” Ex. E, 5:2-11 (emphasis added). These receiver/detector lines (*i.e.*, connections or paths) provide the processor and buffers with

programming and instructions received at the apparatus. *See* Ex. E, 4:55-5:4 (“input transmissions may be received,” and “transf[erred] . . . to receiver/decoder/detectors [to] identify signals encoded in programing transmissions.”); 5:2-11; *see also* Ex. A, 15:47-17:8. Similarly, the “input means” receive and “feed” programming and instructions into various receivers, such as “video recorder/players, 76 and 78, and/or to equipment” for further processing, consistent with PMC’s proposed construction. Ex. E, 5:2-11; 10:24-52; Ex. A, 11:56-67; 15:47-50; 166:27-35. The specifications also describe an output port, *i.e.*, a connection or path used by a device or circuit to output signals to another device or circuit, to output signals to other devices such as “computers, videotape recorders and players, etc.” and “internal digital recorders that receive and store in memory the recorded information.” Ex. E, 5:2-11; *see also* Ex. A, 16:54-63 (“[C]ontroller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission.”); 20:1-31 (“ . . . said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.”).

Apple’s proposal to limit the scope of “output port” and “input ports” to “physical connections” is contradicted by the specification, which describes that the disclosed apparatuses receive from and transmit to sources using *wireless* connections and paths. *See, e.g.*, Ex. E, 4:56-60 (“The channels may convey television, radio, or other transmission frequencies. The input transmissions may be received by means of **antennas** or from hard-wire connections;”); 10:31-38 (“**Microwave transmissions** can be received by microwave antenna, 57, . . .”); Ex. A, 11:39-41 (“said network transmission means may include landlines **microwave transmissions**, a satellite transponder, or other means.”). Additionally, the specifications disclose wireless stations that transmit wirelessly. *See, e.g.*, Ex. A, 130:31-42 (remote wireless station wirelessly transmits embedded signal information); 132:62-133:2 (“The remote wireless station transmitting the

channel 13 transmission is transmitting the same ‘Wall Street Week’ program that is transmitted by the remote cable station...’); 130:31-42 (intermediate wireless transmitter station). A POSI-TA would understand that such wireless transmissions would be both wirelessly received through an input port and wirelessly transmitted through an output port. Weaver Dec., ¶ 94.

#### **K. Multimedia Signals<sup>11</sup>**

The term “multimedia signals,” as used in claim 14 of the ’088 Patent, should be construed to mean “signals that include information in multiple forms of media such as audio, video, computer programming, and data (*e.g.*, information, control signals, instructions).” Apple’s proposal is similar, but omits computer programming and data from the listing of exemplary forms of media and instead includes “text.” Apple’s construction conflicts with the intrinsic evidence which includes computer programming and data, as forms of media for multimedia signals. *See, e.g.*, Ex. E, 19:31-20:10 (the FIG. 6C embodiment is a multimedia presentation that coordinates a graphic of the viewer’s stock portfolio’s performance generated based on input data (received stock prices), television programming (the Wall Street week program), and computer instructions embedded with the Wall Street Week program). *See also* Weaver Dec., ¶ 95. A construction that omits computer programming and data from types of media for “multimedia signals,” as proposed by Apple, would be incorrect as it would omit one of the disclosed embodiments. *See MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007).

#### **L. Processor/Control Processor**

“Processor” should be construed according to its plain and ordinary meaning to a POSI-

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<sup>11</sup> PMC objects to Vizio’s attempt to construe the term “multimedia” in Phase 1, which is limited to disputed terms that overlap between the two cases. “Multimedia” is not a standalone claim term at issue in the consolidated actions. “Multimedia signals” appears only in the ’088 Patent which is not asserted against Vizio; and Vizio did not timely disclose the standalone term “multimedia” pursuant to P.R. 4-1 and 4-2.

TA as “a device that performs operations according to instructions.”<sup>12</sup> Vizio agrees with this construction. In sharp contrast, Apple’s proposed constructions do not require that processors or control processors operate *according to instructions*. Apple’s constructions are overly broad therefore and lead the terms to cover a host of other devices that would never be understood to be a “processor” or “control processor” by a POSITA. *See* Weaver Dec., ¶ 80.

Apple’s reliance on the PTAB’s decision in connection with IPR2014-01532 concerning U.S. Pat. 7,801,304 is misplaced. Ex. R. There, the PTAB relied on a Webster’s dictionary definition from 1988 defining a “processor” as “the part of the computer system that operates on data.” *Id.*, 11. While it is true that a processor can be a “part of a computer system that operates on data,” there are many other parts of a computer system that are not “processors” even though they “operate on data.” For example, most computer systems have memory devices that read and write data and, thus, “operate on data.” But, a POSITA would not consider a memory device to be a “processor.” *See* Weaver Dec., ¶ 81. Similarly, most computer systems have keyboards for inputting data (an operation on data), but, again, a POSITA would not consider a keyboard to be a “processor.” A “processor” is distinguished from these other devices because it operates on data *based on the instructions it executes*. *Id.*

Moreover, a POSITA reading the patent claims, in light of the specifications, would recognize a “processor” and “control processor” as devices distinct and separate from other devices, including decryptors. Weaver Dec., ¶ 82. Claim 14 of the ’088 Patent specifically requires that “said processor [be] programmed for” performing certain operations. In other words, the claimed “processor” executes instructions. The specifications describe that the “control processor,” 39J, performs operations on the data in accordance with instructions. *See, e.g.*, Ex. A,

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<sup>12</sup> Similarly, a “control processor,” as recited in the 2’649 Patent claims, is “a digital electronic device or circuit that controls other devices or circuits by operating on control information *according to instructions*.”

118:10-13 (“*Executing* said decrypt-process-and-meter-current-00-header-message *instructions causes control processor*, 39J, then, to transfer to decryptor, 39K, the SPAM information of said second message in the following fashion.”); 8:34-39 (“particular signal processing apparatus (hereinafter called the ‘signal processor’) detect signals and, *in accordance with the instructions* in the signals *and preprogramming* in the signal processor, decrypt and/or record and/or control station apparatus by means of the signals and/or discard the signals.”).

#### **M. Controllable Device**

Claims 13, 20, and 32 of the ’635 Patent recite “passing ... [decrypted or enabled] signal(s) to a controllable device” and “controlling said controllable device” based on either “instructions” (claims 13 and 32) or “information” (claim 20) in the passed signal(s). PMC’s proposed definition—“A device that *can be* regulated or commanded based on instructions”—is consistent with the plain meaning of the phrase “*controllable* device.” Nothing in the intrinsic record requires a different interpretation.

In contrast, Apple’s proposal—“a device *controlled* based on instructions *in a transmission*”—is incorrect. First, the claim requires merely that the device be “controllable” (*i.e.*, can be controlled) rather than being actually “controlled.” Second, and more importantly, the phrase “controllable device” itself does not specify the source of instructions by which the device can be controlled. To require such instructions to be “in a transmission” is also unnecessary because the subsequent “controlling” step in the respective claims specifies the source of the instructions or information used as the basis of control. Third, nothing in the claims or specifications requires a “controllable device” always to be controlled by transmitted instructions. For example, the specification describes a “programmable random access memory controller 20” controlling a number of “controllable devices” (Ex. E, 8:20-9:19) without requiring instructions from the controller to originate from an incoming transmission. *Weaver Dec.*, ¶¶ 57-58; *SciMed*, 242 F.3d at 1340

(one of the “cardinal sins” of claim construction is importing a limitation from the specification into the claims). Therefore, Apple’s definition of “controllable device” should be rejected.

**N. “Instruct-to-Enable Signal”**

The Court should construe “instruct-to-enable signal” to mean “a signal carrying information used by the receiver station to enable the implementation of the enumerated operation.” This interpretation is supported by the intrinsic evidence. Claim 26 of the ’091 Patent, for example, describes that the instruct-to-enable signal includes “channel” information that enables the receiver station to “automatically tun[e] . . . to a channel designated by said instruct-to-enable signal.” The specifications similarly describe that the receiver stations receive instruct-to-enable signals carrying information used to enable the implementation of various operations. For instance, the stations receive “program-enabling-messages” that enable them, *e.g.*, to decrypt the “Wall Street Week” program transmission, process the information of the meter-monitor segment of the program-enabling-message, and perform other operations. Ex. A, 152:12-153:39, *see also id.*, 148:56-65 (“Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on-CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at-appointed-time instructions.”); 144:47-145:13; 149:28-39; 156:28-41.

Apple’s proposed construction improperly limits the scope of the claimed “signal” to “a signal that provides an enabling instruction.” Neither the claim, nor the specifications limit the content of the instruct-to-enable signal to “instructions.” The 1987 Specification describes that the instruct-to-enable signals broadly include “information.” *See, e.g.*, Ex. A, 156:4-9 (“Transmitting said message causes the line receiver, 33, of decoder, 30, to *receive the embedded SPAM information* of that particular 2nd-WSW-program-enabling-message (#7) that is embedded on



said line Q; the detector, 34, *to detect the digital information of said message; and the controller, 39, to process said information.*”); *see also id.*, 149:28-39; 152:41-48, 155:42-156:3 (content of “enabling-message[s]” including certain information). Similarly, claim 26 of the ’091 Patent, as described above, recites that the instruct-to-enable signal includes “channel” information, rather than any instruction. Moreover, Apple’s proposed construction does not add clarity to the disputed limitation, as it merely replaces the term “instruct-to-enable” with the term “enabling instruction.”

#### O. Message Stream

PMC’s and Apple’s constructions of this term differ in only one respect: PMC grounds the meaning of the term to “a series of *digital* data packages, each data package having a recognizable structure.” Apple, on the other hand, attempts to broaden the term to encompass not only digital, but also analog, data. Apple’s construction should be rejected because the asserted claims of the 2’649 Patent are expressly directed to applied methods for processing *digital* television programming. *See, e.g.*, 2’649 Patent, Claim 1 (“A method of processing . . . digital television signals . . .”); *see also* Ex. A, 18:34-39; 8:46-50; 143:1-159:19; 148:13-16 (“the program originating studio that originates the ‘Wall Street Week’ transmission transmits a television signal that consists of so-called ‘digital video’ and ‘digital audio,’ well known in the art.”); Weaver Dec., ¶¶ 75-79. Nowhere is “analog” mentioned in the language of the claims.

PMC’s and Vizio’s constructions of this term differ in that Vizio attempts to limit the definition of the term “message stream” and its constituent term “message” to one embodiment described in the specification. As Vizio concedes, however, the specification defines a “message” to include “all of the SPAM (signal processing apparatus and method) information[] transmitted in a given transmission[.]” Ex. A, 30:49-51. Vizio’s construction fails to accommodate the specification: “More specifically, a message consists of all the SPAM information,

transmitted in a given transmission, from the first bit of one header to the last bit transmitted before the first bit of the next header.” *Id.*, 30:49-52. This language neither limits nor equates “all the SPAM information” with “control information.” Nor does Vizio’s construction comport with the fact that Figure 2I is merely “*one* instance of a SPAM message stream,” *id.*, 9:59 (emphasis added); “FIG. 2J shows *one* instance of a message that consists of just a header and an execution segment and fills one byte signal word completely,” *id.*, 9:60-62 (emphasis added); and “FIG. 2K shows *one* instance of a message that contains execution and meter-monitor segments and fills a whole number of byte signal words completely but ends with one full byte signal word of padding bits because the last byte signal word of command information is an EOFs [end of file signal] word[.]” *id.*, 9:63-67 (emphasis added).

Rather, together, Figures 2I, 2J, and 2K illustrate various embodiments of a “message,” each being a digital data package having a structure and carrying digital data, which, in the cited figures, may include a header, a command, an execution segment, an information segment, an EOFs, and/or a meter-monitor segment. A “message” is not simply “all of the control information transmitted in a given transmission,” as Vizio proposes, because although “control information [can be] detected in a message stream,” *see* Ex. C, Claim 64, “cadence information is [also] detected in a message stream,” *see id.*, Claim 70. *See also* Weaver Dec., ¶¶ 65-69. In contrast, PMC’s proposed construction, which focuses on the *structure* of a “message,” should be accepted in lieu of Vizio’s construction, because it does not seek to limit the structure to just one instance of certain exemplary constituents.

*Phillips* bars courts from limiting claims to examples given in the specification, *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc), and Vizio’s approach defies *Phillips*. The phrase “one instance” in the specification clearly introduces the makeup of a “message” as three species of a “message.” Ex. A, 9:59-67. Because “header,” “command,” and “ex-

ecution segment” are mere “example[s] of a broader genus” of a “message,” the Court should reject Vizio’s proposed construction “rather than limit[] the genus to the exemplary species.”

*Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 811 (Fed. Cir. 2002).

**P. Control Information/Control Signal**

Apple contends that neither term requires construction. Vizio agrees, but proposes in the alternative that “control information” means “information that controls processing.” PMC proposes that “control information” is “information, data or instructions that affect, control, or enable processing.” Both Vizio and PMC agree that “control signal” simply means “a signal that carries control information (as “control information” is to be construed by the Court).”

The language of the asserted claims themselves provides persuasive intrinsic support for PMC’s construction. For example, Claim 1 of the 2’649 Patent is directed to controlling the timing of communicating television programs and storing information evidencing the availability, use or usage of television programming. Claim 1 discloses that the “selecti[on] and output[],” “processing,” and “stor[age]” of signal information are all affected by “control information.” Similarly, Claim 39 of the 2’649 Patent is directed to a method of processing two or more television signals simultaneously using the multiple processors of the receiver station through the use of “control information” and “register memories.” Claim 39’s recitation of “control information” as enabling the “compari[son],” “input[],” “processing” and “display” of digital television signals and programming data also supports PMC’s construction that “control information” is any information, data or instructions that affect, control, or enable processing. Ex. A, 21:50-52; 23:27-29; 23:48-53; 25:59-26:12; 62:60-63:28; 267:9-23; *see also* Weaver Dec., ¶ 55.

PMC’s proposed construction also is supported by the historical context. In 1987, the time of the 2’649 Patent, it was not conventional or routine practice to affect, control, or otherwise enable the management of STET digital television signals through the use of embedded

control information. Weaver Dec., ¶ 56. Compared to the conventional receiver stations at the time, which could only passively receive broadcast content, the asserted claims of the 2’649 Patent offered significant technical advantages because they enabled the operations of receivers to be regulated remotely using “control information” transmitted along with digital media content. This allowed for flexibility in receiver content consumption which was one of the technological challenges associated with the streaming of digital media content on demand to individual receivers. *Id.*

#### **Q. Register Memory**

The parties agree that a “register memory” has the function of “temporarily storing information for use in later operations.” The parties disagree, however, whether a “register memory” refers to a specific device, such as “a memory in a processor,” or rather, describes structural elements such as a dedicated capacity and location—“a memory space location.” The specification supports the construction of “register memory” in terms of its capacity and location.

In the present invention, any microprocessor, buffer/comparator, or buffer can be adapted and preprogrammed to detect end of file signals. At any given SPAM apparatus that is so adapted and preprogrammed, particular dedicated capacity exists for said detecting. Said capacity includes standard register memory or RAM capacity, well known in the art, including three particular memory locations for comparison purposes, one particular memory location to serve as a counter, and three so-called ‘flag bit’ locations to hold particular true/false information.”

Ex. A, 35:34-43. The same excerpt from the specification contradicts Vizio’s and Apple’s shared construction that “register memory” is “memory *in a processor*” because it makes clear that “register memories” can exist “at any apparatus,” such as a “microprocessor, buffer/comparator, or buffer.” Weaver Dec., ¶ 87.

#### **R. Cadence Information**

The parties appear to agree as to the content of “cadence information” (*i.e.*, headers, length tokens, and/or end-of-file signals) but disagree whether such content should be construed,

on the whole, as “fields in a data package” or “information.” Consistent with its other proposed constructions, which seek to construe terms according to their structure rather than exemplary content, PMC construes “cadence information” to refer to a general structure that includes as its content headers, length tokens, and end-of-file signals, which together comprise “fields in a data package.” Apple and Vizio would rather call such content “information,” but such a nebulous term adds nothing to clarify what “cadence information” is. Weaver Dec., ¶ 84; *see also Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) (purpose of claim construction is to provide the jury with clear guidance).

Importantly, the specification describes transmitting “cadence information” as “cadence signals.” *See* Ex. A, 43:29-33 (“The preferred embodiment has the advantage of requiring that long cadence signals that require time consuming processing be transmitted only with some messages and then only at times when processing speed is of relatively low priority.”). In the instant context, the transmission of signals refers to “data packages”—such as “messages” in a “message stream”—that are being sent, received, and processed. Because “cadence information is detected in a message stream,” *see* Ex. C (2’649, Patent Claim 70), it, like a “message stream,” is made up of “data packages.” Thus, “headers, length tokens, and end-of-file signals” are—structurally and appropriately—the constituent “fields” in a “data package.” Weaver Dec., ¶ 85.

#### **S. “Stored Function Invoking Data”**

Both Apple and Vizio assert that this term is indefinite without providing any explanation or support. “A patent’s claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). Defendants thus bear a heavy burden to show indefiniteness by clear and convincing ev-

idence. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1345 (Fed. Cir. 2007).

“Stored function invoking data” is “data stored in memory that is used as a basis for causing preprogrammed functions stored at the receiver station to be performed.” Ex. A, 23:34-53; 12:4-13:4 (“control invoking instructions”); 49:10-31 (“controlled-function invoking information”); Weaver Dec., ¶ 74. The specification describes a feature of the invention to be signal processing that depends on the interaction between transmitted “information that causes processing at the subscriber stations” and the “information preprogrammed at the various stations that controls the SPAM processing at each station.” Ex. A, 143:60-66. In order “to invoke any given controlled function at any given [receiver] station, the received binary information . . . must match preprogrammed controlled-function-invoking information [stored in memory] at each [receiver] station. This feature permits each [receiver] station to be preprogrammed with station specific controlled-function-invoking information that differs from station to station (which means that no single SPAM execution segment could invoke a given function at all stations without first being processed at selected stations to render its information to correspond to the station specific preprogrammed invoking information of said stations).” *Id.*, 143:66-144:10. Extrinsic support also demonstrates that the phrase is amenable to construction. *Webster’s Ninth New Collegiate Dictionary* (9th ed. 1988) includes a definition for “invoke”—“to put into effect or operation”—that is in harmony with PMC’s proposed construction. Ex. S. Likewise, the *Dictionary of Computers, Information, Processing, and Telecommunications* (2d ed. 1987) also appropriately defines “invoke” to mean “to activate a procedure in one of its entry points.” Ex. T.

#### **T. Digital Television Signals**

The specification makes plain that PMC’s construction is the correct one: “the program originating studio that originates that ‘Wall Street Week’ transmission transmits a television signal that consists of so-called ‘digital video’ and ‘digital audio,’ well known in the art,” Ex. A,

148:13-16; and “said program . . . ceases transmitting a television signal of digital video and digital audio,” *id.*, 154:4-6. The relevant claim language also makes clear that “digital television signals” include both digital video and audio signals. Ex. U, Claim 1 (“processing said selected plurality of said digital television signals to communicate video and audio signals to a television monitor”). A POSITA would not understand the term “digital television signals” to mean television signals that include digital information, as Apple contends. Such a construction is overly broad and could encompass analog television signals that simply include merely some digital information, and is inconsistent with the patent specification and the understanding of a POSITA reviewing the specification. Weaver Dec., ¶ 75. Moreover, there is simply no basis for Vizio to import the terms “data” and “mass medium” into a construction for “digital television signals.” And although Vizio cites the file history of the 2’649 and ’650 Patents in an attempt to support its construction, file history evidence takes a backseat to the “clarity of the specification,” *Phillips*, 415 F.3d at 1315, which, for this term, cannot be more clear.

#### **U. Digital Video Signals**

The specification is clear and both PMC and Vizio agree that “digital video signals” are “signals encoded as discrete numerical values instead of an analog representation.” Vizio, however, attempts to broaden “digital video” to include all “visual information,” such as graphics, captions, and/or text that has been encoded digitally. This is inappropriate. “Video” is not the same as “visual,” Vizio’s proposed construction unjustifiably swaps one term for another (“visual information” for “digital video”), provides no additional value, and would needlessly confuse the jury. Weaver Dec., ¶¶ 76-77; *cf. Sulzer Textil*, 358 F.3d at 1366 (purpose of claim construction is to provide the jury with clear guidance).

The specification also does not support such an expansion of “video signals” to encompass all “visual information.” The phrase “visual information” is not found in the specification.

Vizio wants to rewrite the claim terms to build its case for invalidity, but there is no cause for swapping one common English term for another. This is particularly true here because “video signals” and “visual information” are neither interchangeable nor synonymous. The latter is much broader than the former. Weaver Dec., ¶ 78.

In contrast, Apple proposes an entirely different construction asserting that “digital video signals” are “video signals that include digital information,” which improperly broadens the claim term to encompass analog signals that simply include *some* digital information in an attempt to manufacture an invalidity defense. Apple’s construction is improper because it is clear from the intrinsic record that the inventors, when using the terms “digital television signals,” “digital video signals” and “digital audio signals,” intended that the word “digital” modify the words “television signals,” “video signals” and “audio signals” and intended that the signals be “*digital*” – not analog. Weaver Dec., ¶ 79. Further, the specifications make clear the inventors were referring to the transmission of digital television programming, well known in the art. *See supra*.

## **V. Television Receiver**

A “television receiver” is simply an electronic device that receives television programming. That is the obvious and plain meaning of the term, which has no “elaborate” technical meaning and whose ordinary meaning is apparent. *Phillips*, 415 F.3d. at 1314. Apple’s and Vizio’s attempts to limit a TV receiver to its capability to tune to a specific *frequency* is an obvious attempt to manufacture a non-infringement position.

The plain language of the claims supports PMC’s interpretation. For instance, independent claims 39, 54, and 67 of the 2’649 Patent do not limit reception of television programming to broadcast transmissions and do not specify that a TV receiver must be able to tune to specific frequencies. *See* Ex. C, claims 39, 54 and 67. Apple and Vizio ignore the plain claim language



and propose to require TV receivers also to be *frequency* tuners. But the specification makes clear that TV tuners are different structures in the disclosed signal processing apparatus than TV receivers. *Contrast* Ex. A, FIGS. 1 and 3, 10:41-43 (“Via conventional antenna, the station receives a conventional television broadcast transmission at television tuner, 215”), 12:23-27 (“Tuner, 215, receives this television transmission, converts the received television information into audio and composite video transmissions, and transmits the audio to monitor, 202M, and the video via divider, 4, to microcomputer, 205, and decoder, 203.”) *with* FIG. 6A, 166:25-45 (“The means and methods for transmitting conventional programming are well known in the art. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. . . . Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.”). Thus, a TV receiver is not required to “tune[] to a specific television frequency” in order to receive television programming—that is merely one embodiment. A TV receiver is generally an electronic device capable of “receiving television programming”—without regard to *how* it receives that programming. *Weaver Dec.*, ¶ 72.

Accordingly, the Court need not construe this term as requiring anything other than its plain and ordinary meaning. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“district courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims”).

### III. CONCLUSION

PMC respectfully requests that the Court reject Defendant’s proposed constructions and adopt its constructions. PMC submits that its proposed constructions are consistent with the language of the claims, the specifications, the prosecution histories and the understandings of a POSITA at the relevant times.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served on May 17, 2016 with a copy of this document and all documents in support thereof, via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by electronic mail, facsimile transmission and/or first class mail on this same date.

/s/ Elizabeth L. DeRieux  
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